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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/734,658
Filing Date: December 11, 2003
Appellant(s): HILLIS ET AL.

Dale C. Barr
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 17, 2010 appealing from the Office action mailed October 5, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Pending appeal for co-pending application 10/734,659 entitled "Spatial-to-Temporal Data Translation and Scheduling Control".

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,920,701	Miller et al.	7-1999
6,345,028	Jaeger	2-2002
5,926,649	Ma et al.	7-1999
5,801,753	Eyer et al.	9-1998
6,081,402	Cho	6-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 9-15, 17-21, 26-29, 34-36, 39, 40, and 42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (U.S. Patent 5,920,701) (hereinafter "Miller") in view of Jaeger (U.S. Patent 6,345,028) and Ma et al. (U.S. Patent 5,926,649) (hereinafter "Ma").

As per claims 1 and 26, but more specifically claim 1, Miller discloses a method comprising:

publishing a schedule of content transmission, the schedule identifying the content by one or more times (col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114);

transmitting the at least one content to a temporal data storage system in accord with the published schedule (col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46). *It should be noted that the "tape drives" within the "replicated servers" are analogous to a "temporal data storage system."*

Miller does not disclose reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission.

Jaeger discloses reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission (col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that the "data signals/tracks" are analogous to the "at least one content" and that the "disk drive" is analogous to a "hardware spatial data storage system."*

Miller and Jaeger are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Jaeger's reordering of data signals within Miller's content source's hard disk drives because all the claimed elements were known in the prior art

and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of maximizing the number of data signals that can be transmitted from a disk drive by minimizing seek time of the disk drive head.

The combination of Miller/Jaeger does not disclose the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system.

Ma discloses the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system (col. 9, lines 10-22; col. 10, lines 43-60; Figs. 4 and 5). *It should be noted that "disk-based storage system 14" is equivalent to the "hardware spatial data storage system". It should also be noted that the schedules in Fig. 5 are defined in response to the location of data in the disk-based storage system. The location of data in the disk-based storage system dictates the order of data in the disk-based storage system. Therefore, it follows that the schedules in Fig. 5 are also defined in response to the order of the data in the disk-based storage system.*

The combination of Miller/Jaeger and Ma are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Ma's scheduling technique to Miller/Jaeger's distribution schedule. The motivation for doing so would have been to provide sequential-like

parallel retrieval suitable for supporting real-time multimedia data distribution for large numbers of clients.

As per claims 2 and 27, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

printing the schedule of content transmission on a medium (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114); *It should be noted that act of "transmitting" the "distribution schedule" across the "communication links" anticipates the act of "printing the schedule of content transmission on a medium".*

and distributing the medium to one or more sites associated with one or more associated data switch controllers (Miller, col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114; col. 5, lines 39-43; Fig. 1, elements 12, 14, 16, 18, 20; Fig. 2, element 34). *It should be noted that the "content sources" are equivalent to the "one or more sites" and that the "I/O controllers" are equivalent to the "data switch controllers."*

As per claims 3 and 28, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one

hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

As per claims 4 and 29, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a sideband data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

As per claims 9 and 34, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one hard disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 10 and 35, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an outer track and ending with an inner track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 11 and 36, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an inner track and ending with an outer track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that depending on the manufacturer, "track 1" could be the innermost track and "track N" could be the outermost track, and vice versa.*

As per claims 12 and 37, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading the at least one content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

and reading a copy of the at least one content from a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

As per claim 13, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

determining a first time interval during which a first segment of a first content will be read from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

determining a second time interval during which a second segment of the first content will be read from second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11');

and defining the schedule in response to the first time interval and second time interval (Ma, col. 10, lines 43-60; Fig. and 5).

As per claims 14 and 39, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a hard disk drive such that an aggregate distance traversed by a hard disk head is minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "substantially minimize" the aggregate distance traversed by a disk drive head.*

As per claims 15 and 40, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a spatial address device such that an aggregate time to read the at least one content of the spatial address device is minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "substantially minimize" the aggregate time to read the data tracks of the disk drive.*

As per claims 17 and 42, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 18 and 43, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one disk address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 19 and 44, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 20 and 45, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one static memory address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claims 21 and 46, the combination of Miller/Jaeger/Ma discloses said reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one object address storage system (col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

As per claim 38, the combination of Miller/Jaeger/Ma discloses said means for reading the at least one content from at least one hard disk drive further comprises:

means for reading a first content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

and means for reading a second content a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

Claims 5-8 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger and Ma as applied to claim 1 above, and further in view of Eyer et al. (U.S. Patent 5,801,753) (hereinafter "Eyer").

As per claims 5 and 30, the combination of Miller/Jaeger/Ma discloses a temporal data storage system (Miller, col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose transmitting the schedule of content transmission to the temporal data storage system.

Eyer discloses transmitting the schedule of content transmission to a memory (col. 5, line 62 – col. 6, line 23).

The combination of Miller/Jaeger/Ma and Eyer are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide Eyer's IPG stream to Miller/Jaeger/Ma's tape drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of an interactive guide that responds to user inquiries on an instantaneous or near instantaneous basis.

As per claims 6 and 31, the combination of Miller/Jaeger/Ma/Eyer discloses said transmitting the schedule of content transmission to the temporal data storage system further comprises:

interleaving the schedule of content with other data (Eyer, col. 15, lines 55-61).

As per claims 7 and 32, the combination of Miller/Jaeger/Ma/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule relative to at least one time marker amongst the at least one content (Eyer, col. 16, lines 45-58; Fig. 5).

As per claims 8 and 33, the combination of Miller/Jaeger/Ma/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule amongst the at least one content at a determined interval of time (Eyer, col. 16, lines 45-58; Fig. 5).

Claims 16, 22-25, 41, and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger and Ma as applied to claim 1 above, and further in view of Cho (U.S. Patent 6,081,402).

As per claims 16 and 41, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading a storage of a hard disk drive with a hard drive arm having a disk drive head, said head is dedicated to at least one specific disk drive track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

The combination of Miller/Jaeger/Ma does not disclose a hard drive arm having at least two disk drive heads.

Cho discloses a hard drive arm having at least two disk drive heads (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Cho's multi-arm-track-per-head disk drive within Miller/Jaeger/Ma's recording system because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

As per claims 22 and 47, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-

reclocking drive, the head of the second arm of the delay-reclocking drive being on a same track as the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

As per claims 23 and 48, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive; writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive; reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-reclocking drive, the head of the second arm of the delay-reclocking drive being on a different track than the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

As per claims 24 and 49, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one

content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a second head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

As per claims 25 and 50, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with the first head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of

providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

(10) Response to Argument

Response to B.1.a.

Appellant argues, in section B.1.a., that:

"The USPTO-Cited Technical Material Fails to Recite Several Express Terms of Independent Claim 1 and Therefore the USPTO Has Not Met Its Burden to Establish a Prima Facie Case of Unpatentability for Independent Claim 1"

The Examiner respectfully disagrees and refers Appellant above to the rejection of claim 1 which clearly explains how the combination of Miller/Jaeger/Ma renders claim 1 unpatentable. Notwithstanding, as explained in previous Office actions, the Examiner submits that Miller's "transmission instructions" are equivalent to Appellant's "schedule" and Miller's "content data" is equivalent to Appellant's "content". As admitted by Appellant themselves on page 51 of the Appeal Brief, col. 13, lines 4-6 of Miller disclose:

"...the scheduler 10 distributes transmission instructions to the content sources 12, 14. These instructions include the time to start transmitting the content data.."

Thus, it is clear that Miller's "time to start transmitting the content data" discloses Appellant's "one or more times." Based on the foregoing, it follows that Miller's transmission instructions ("schedule") identifies the content data ("content") by one or

more times ("time to start transmitting the content data"). In order to support the Examiner's position, Appellant is directed to Fig. 6, element 600 of Appellant's drawings as well as lines 4-7 of the third full paragraph on page 10 of Appellant's specification which state:

"Method step 600 shows printing the schedule of content transmission times on a medium. In one implementation, a paper filer having a list of contents and associated times of transmission of such contents are printed. For example, printing a page containing the information "Joe Smith's echocardiogram will be transmitted at times T1, T8, T30, etc.""
(emphasis added)

Thus, it is quite evident that Miller's distribution of transmission instructions which include the time to start transmitting the content data is equivalent to Appellant's example in which a page is printed containing the times Joe Smith's echocardiogram will be transmitted. Therefore, based on the foregoing, Miller sufficiently discloses "the schedule identifying the content by one or more times", as simply and broadly claimed by Appellant. Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Furthermore, the Examiner notes that Appellant's arguments in section B.1.a. of the Appeal Brief fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Lastly, the Examiner notes that Appellant's arguments in section B.1.a. of the Appeal Brief do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of

the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Response to B.1.b.1.

Appellant argues, in section B.1.b.1., that:

"The USPTO Has Put Forth No Evidence Supporting Its Characterization/Assertion That Miller "Teaches" Recitations of Independent Claim 1...Applicant respectfully points out that Applicant has reviewed the Miller reference identified by the USPTO, and so far as Applicant can discern, the Miller reference does not recite "the schedule identifying the content by one or more times" as recited in Applicant's Independent Claim 1.²⁵"

The Examiner respectfully disagrees and refers Appellant above to the response to B.1.a. which details how Miller discloses "the schedule identifying the content by one or more times". Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.2.

Appellant argues, in section B.1.b.2., that:

"The USPTO Characterization/Assertion Appears to be Based on Inadvertent Impermissible Hindsight, Personal Knowledge, or Official Notice; Applicant Requests Issuance of Notice of Allowability"

The Examiner respectfully disagrees. The Examiner notes that Appellant's argument in section B.1.b.2. is based on the allegation that Miller does not disclose "the schedule identifying the content by one or more times", however, the Examiner refers Appellant above to the response to B.1.a. which details how Miller does in fact disclose "the schedule identifying the content by one or more times". Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.3.

Appellant argues, in section B.1.b.3., that:

"The USPTO Has Put Forth No Evidence Supporting Its Characterization/Assertion That Jaeger "Teaches" Recitations of Independent Claim 1...Although the USPTO states "Jaeger discloses reading at least one content from at least one hardware spatial data storage system," Applicant has pointed out above that the USPTO has not engaged in the broadest reasonable interpretation framework regarding Clause [a], and accordingly has not addressed at least the "the schedule identifying the content by one or more times" recitations of Clause [a]."

The Examiner respectfully disagrees. The Examiner notes that Appellant's arguments in section B.1.b.3. do not dispute Jaeger's disclosure of "reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission", but rather Appellant argues that Jaeger does not disclose "the schedule identifying the content by one or more times". However, as can be seen from the rejection of claim 1 above, the Examiner relies on

Miller to disclose "the schedule identifying the content by one or more times".

Therefore, the Examiner refers Appellant above to the response to B.1.a. which details how Miller discloses "the schedule identifying the content by one or more times".

Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.4.

Appellant argues, in section B.1.b.4., that:

"The USPTO Characterization/Assertion Appears to be Based on Inadvertent Impermissible Hindsight, Personal Knowledge, or Official Notice; Applicant Requests Issuance of Notice of Allowability"

The Examiner respectfully disagrees. The Examiner notes that Appellant's argument in section B.1.b.4. is based on the allegation that Jaeger does not disclose "the schedule identifying the content by one or more times". However, as can be seen from the rejection of claim 1 above, the Examiner relies on Miller to disclose "the schedule identifying the content by one or more times". Therefore, the Examiner refers Appellant above to the response to B.1.a. which details how Miller discloses "the schedule identifying the content by one or more times". Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.5.

Appellant argues, in section B.1.b.5., that:

"The USPTO Has Put Forth No Evidence Supporting Its Characterization/Assertion That Ma "Teaches" Recitations of Independent Claim 1...Although the USPTO states "Ma discloses the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system," Applicant has pointed out above that the USPTO has not engaged in the broadest reasonable interpretation framework regarding Clause [a], and accordingly has not addressed at least the "the schedule identifying the content by one or more times" recitations of Clause [a]."

The Examiner respectfully disagrees. The Examiner notes that Appellant's arguments in section B.1.b.5. do not dispute Ma's disclosure of "the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system", but rather Appellant argues that Ma does not disclose "the schedule identifying the content by one or more times". However, as can be seen from the rejection of claim 1 above, the Examiner relies on Miller to disclose "the schedule identifying the content by one or more times". Therefore, the Examiner refers Appellant above to the response to B.1.a. which details how Miller discloses "the schedule identifying the content by one or more times". Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.6.

Appellant argues, in section B.1.b.6., that:

"The USPTO Characterization/Assertion Appears to be Based on Inadvertent Impermissible Hindsight, Personal Knowledge, or Official Notice; Applicant Requests Issuance of Notice of Allowability"

The Examiner respectfully disagrees. The Examiner notes that Appellant's argument in section B.1.b.6. is based on the allegation that Ma do not disclose "the schedule identifying the content by one or more times". However, as can be seen from the rejection of claim 1 above, the Examiner relies on Miller to disclose "the schedule identifying the content by one or more times". Therefore, the Examiner refers Appellant above to the response to B.1.a. which details how Miller discloses "the schedule identifying the content by one or more times". Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.1.b.7.

Appellant argues, in section B.1.b.7., that:

"The USPTO-Suggested Modifications to Meet the Recitations of Independent Claim 1 Change the Principle of Operation of Components Being Modified; No Teaching to Modify/Combine Components as a Matter of Law...Applicant respectfully points out that were one to incorporate the scheduler as recited by the instant claims into the structure of Miller, Miller would no longer have "distribution schedules based on the requests from the content sources, which requests typically include the size or amount of the data to be transmitted, the desired completion time for the data transmission, and a priority level associated therewith." Thus, the USPTO- suggested

modifications/combinations would change the principle of operation of Miller for at least this reason. As discussed above, one reason why such modified Miller technologies would be rendered unsatisfactory is that, at present, the USPTO has not yet provided any teaching of how to incorporate the structure of Jaeger and/or Ma with the Miller technologies to provide "[a] publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times," as recited in Independent Claim 1."

The Examiner respectfully disagrees. The Examiner notes that Appellant's argument that the suggested modifications/combinations would change the principle of operation of Miller is based on the allegation that Miller does not disclose "the schedule identifying the content by one or more times" and therefore incorporating such features into Miller would change the principle of operation. However, such an allegation is erroneous because, as detailed in the response to B.1.a. above, Miller discloses "the schedule identifying the content by one or more times". Consequently, since Miller does in fact disclose "the schedule identifying the content by one or more times", the suggested modifications/combinations would not change the principle of operation of Miller. Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Notwithstanding the foregoing, contrary to Appellant's numerous allegations, the Examiner submits that the rejection of claim 1 contains sufficient teaching to modify/combine such references to meet the recitations of independent claim 1. As detailed above in the rejection of claim 1, Miller and Jaeger are analogous art because

they are from the same field of endeavor, that being data transmission and at the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Jaeger's reordering of data signals within Miller's content source's hard disk drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of maximizing the number of data signals that can be transmitted from a disk drive by minimizing seek time of the disk drive head. As further detailed above in the rejection of claim 1, the combination of Miller/Jaeger and Ma are analogous art because they are from the same field of endeavor, that being data transmission and at the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Ma's scheduling technique to Miller/Jaeger's distribution schedule, the motivation for doing so would have been to provide sequential-like parallel retrieval suitable for supporting real-time multimedia data distribution for large numbers of clients. Accordingly, the rejection of claim 1 contains sufficient teaching to modify/combine such references to meet the recitations of independent claim 1.

Response to B.1.b.8.

Appellant argues, in section B.1.b.8., that:

"Modifications to Meet the Recitations of Independent Claim 1 Render Components Being Modified Unsatisfactory for their Intended Purposes; No Teaching to Modify/Combine Components as a Matter of Law...Applicant again points out that the

USPTO has provided no evidence to modify/combine the cited technical materials to reach the recitations of Independent Claim 1."

The Examiner respectfully disagrees. Appellant quotes col. 3, lines 26-62 of Miller and then goes on to state, *"It is unclear, at best, how these purposes can be served by a method or apparatus publishing a schedule [sic] of content transmission, the schedule identifying the content by one or more times in conjunction with recited features of Independent Claim 1. Thus, for at least this reason, the suggested modifications/combinations would render the technologies of Miller unsatisfactory for their intended purposes."* (see pages 83-84 of the Appeal Brief). Thus, again the Examiner notes that Appellant's argument is based on the allegation that Miller does not disclose "the schedule identifying the content by one or more times". However, such an allegation is erroneous because, as detailed in the response to B.1.a. above, Miller discloses "the schedule identifying the content by one or more times". Consequently, since Miller does in fact disclose "the schedule identifying the content by one or more times", the suggested modifications/combinations would not render the technologies of Miller unsatisfactory for their intended purposes. Accordingly, the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Notwithstanding the foregoing, contrary to Appellant's numerous allegations, the Examiner submits that the rejection of claim 1 contains sufficient teaching to modify/combine such references to meet the recitations of independent claim 1. As detailed above in the rejection of claim 1, Miller and Jaeger are analogous art because they are from the same field of endeavor, that being data transmission and at the time

of the invention it would have been obvious to a person of ordinary skill in the art to implement Jaeger's reordering of data signals within Miller's content source's hard disk drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of maximizing the number of data signals that can be transmitted from a disk drive by minimizing seek time of the disk drive head. As further detailed above in the rejection of claim 1, the combination of Miller/Jaeger and Ma are analogous art because they are from the same field of endeavor, that being data transmission and at the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Ma's scheduling technique to Miller/Jaeger's distribution schedule, the motivation for doing so would have been to provide sequential-like parallel retrieval suitable for supporting real-time multimedia data distribution for large numbers of clients. Accordingly, the rejection of claim 1 contains sufficient teaching to modify/combine such references to meet the recitations of independent claim 1.

Response to B.2.

Appellant argues, in section B.2., that:

"...Dependent Claims 2-25 are patentable for at least the reasons why Independent Claim 1 is patentable."

The Examiner respectfully disagrees and refers Appellant above to the responses to B.1.a. through B.1.b.8. which detail how the combination of Miller/Jaeger/Ma renders claim 1 unpatentable.

Response to B.3.

Appellant argues, in section B.3., that:

"Dependent Claim 2 is Independently Patentable"

The Examiner respectfully disagrees. Firstly, the Examiner refers Appellant above to the response to B.1.a. which details how Miller discloses clause [a] of independent claim 1.

Secondly, regarding clause [e] (printing the schedule of content transmission on a medium; and distributing the medium to one or more sites associated with one or more associated data switch controllers) of dependent claim 2, when taking the broadest reasonable interpretation of the limitation "printing the schedule of content transmission on a medium; and distributing the medium to one or more sites associated with one or more associated data switch controllers", it follows that Miller's act of distributing the transmission instructions to the content sources (see col. 13, lines 4-5 and Fig. 3, element 114 of Miller) discloses said limitation. This is so because during Miller's act of distributing the transmission instructions to the content sources, the transmission instructions ("schedule") are reproduced ("printed") on electronic signals ("transitory medium"), in which the electronic signals ("transitory medium") are distributed to the content sources ("one or more sites"). Each content source ("site") is

associated with an input/output controller ("data switch controller") (see col. 5, lines 39-43 and Fig. 2, element 34 of Miller). Hence, Miller sufficiently discloses printing (i.e. reproducing) the schedule of transmission (i.e. transmission instructions) on a medium (i.e. electronic signals); and distributing the medium to one or more sites (i.e. content sources) associated with one or more associated data switch controllers (i.e. input/output controllers). Accordingly, the combination of Miller/Jaeger/Ma renders claim 2 unpatentable.

Furthermore, Appellant additionally argues on page 91 of the Appeal Brief that:

*"Until the USPTO has supported its statement under the broadest reasonable interpretation framework, moreover, Applicant here returns to the express language of the claim. Applicant has reviewed the material identified by the USPTO, and so far as Applicant can discern, the Miller reference does not recite **"wherein the unique machine-distinguishable identifier includes a user- formed unique identifier recognizable by a pattern recognition method"** and **"further including a detector module operable to generate a signal indicative of a unique machine-distinguishable identifier associated with the user-formed unique identifier and to distribute a representation of the unique user-understandable identifier to the data receptor that is keyed by the unique machine-distinguishable identifier keyed to a data receptor."** (emphasis added by the Examiner)*

In response to Appellant's argument that the references fail to show certain features of Appellant's invention, it is noted that the features upon which Appellant relies (i.e., "wherein the unique machine-distinguishable identifier includes a user- formed

unique identifier recognizable by a pattern recognition method" and "further including a detector module operable to generate a signal indicative of a unique machine-distinguishable identifier associated with the user-formed unique identifier and to distribute a representation of the unique user-understandable identifier to the data receptor that is keyed by the unique machine-distinguishable identifier keyed to a data receptor") are not recited in the rejected claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Response to C.1.

Appellant argues, in section C.1., that:

"Technical Material Cited by USPTO Does Not Show or Suggest the Text of Independent Claim 26 as Presented Herein; Notice of Allowance of Same Respectfully Requested"

The Examiner respectfully disagrees and refers Appellant above to the rejection of claim 26 which clearly explains how the combination of Miller/Jaeger/Ma renders claim 26 unpatentable. Notwithstanding, as explained in previous Office actions, the Examiner submits that Miller's "transmission instructions" are equivalent to Appellant's "schedule" and Miller's "content data" is equivalent to Appellant's "content". As admitted by Appellant themselves on page 51 of the Appeal Brief, col. 13, lines 4-6 of Miller disclose:

"...the scheduler 10 distributes transmission instructions to the content sources 12, 14. These instructions include the time to start transmitting the content data.."

Thus, it is clear that Miller's "time to start transmitting the content data" discloses Appellant's "one or more times." Based on the foregoing, it follows that Miller's transmission instructions ("schedule") identifies the content data ("content") by one or more times ("time to start transmitting the content data"). In order to support the Examiner's position, Appellant is directed to Fig. 6, element 600 of Appellant's drawings as well as lines 4-7 of the third full paragraph on page 10 of Appellant's specification which state:

"Method step 600 shows printing the schedule of content transmission times on a medium. In one implementation, a paper flier having a list of contents and associated times of transmission of such contents are printed. For example, printing a page containing the information "Joe Smith's echocardiogram will be transmitted at times T1, T8, T30, etc."" (emphasis added)

Thus, it is quite evident that Miller's distribution of transmission instructions which include the time to start transmitting the content data is equivalent to Appellant's example in which a page is printed containing the times Joe Smith's echocardiogram will be transmitted. Therefore, based on the foregoing, Miller sufficiently discloses "the schedule identifying the content by one or more times", as simply and broadly claimed by Appellant. Accordingly, the combination of Miller/Jaeger/Ma renders claim 26 unpatentable.

Response to C.2.

Appellant argues, in section C.2., that:

"...Dependent Claims 27-50 are patentable for at least the reasons why Independent Claim 26 is patentable."

The Examiner respectfully disagrees and refers Appellant above to the responses to C.1. which details how the combination of Miller/Jaeger/Ma renders claim 26 unpatentable.

Response to C.3.

Appellant argues, in section C.3., that:

"Dependent Claim 27 is Independently Patentable"

The Examiner respectfully disagrees. Firstly, the Examiner refers Appellant above to the response to C.1. which details how Miller discloses clause [a] of independent claim 26.

Secondly, regarding clause [e] (means for printing the schedule of content transmission on a medium; and distributing the medium to one or more sites associated with one or more associated data switch controllers) of dependent claim 27, when taking the broadest reasonable interpretation of the limitation "means for printing the schedule of content transmission on a medium; and distributing the medium to one or more sites associated with one or more associated data switch controllers", it follows that Miller's scheduler 12 which distributes the transmission instructions to the content sources (see col. 13, lines 4-5 and Fig. 3, element 114 of Miller) discloses said limitation. This is so because during Miller's scheduler 12 distributes the transmission instructions to the content sources, the transmission instructions ("schedule") are

reproduced ("printed") on electronic signals ("transitory medium"), in which the electronic signals ("transitory medium") are distributed to the content sources ("one or more sites"). Each content source ("site") is associated with an input/out controller ("data switch controller") (see col. 5, lines 39-43 and Fig. 2, element 34 of Miller). Hence, Miller sufficiently discloses means for printing (i.e. reproducing) the schedule of transmission (i.e. transmission instructions) on a medium (i.e. electronic signals); and distributing the medium to one or more sites (i.e. content sources) associated with one or more associated data switch controllers (i.e. input/output controllers). Accordingly, the combination of Miller/Jaeger/Ma renders claim 27 unpatentable.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Arpan Savla/

Examiner, Art Unit 2185

Conferees:

/Kevin L Ellis/
Supervisory Patent Examiner, Art Unit 2117

/Sanjiv Shah/

Art Unit: 2185

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